CURRENT LITERATURE

BOOK REVIEWS

A textbook of physiological chemistry

On account of the rapidly growing importance of physiological chemistry in modern plant physiology, a recent textbook by MATHEWS[1] will be found of particular interest to plant physiologists. Much of this large volume is of equal interest to plant and animal physiologists. Those features which concern the plant physiologist more especially are as follows.

The point of view seems more that of the biochemist than previous texts on this subject, which have been treated almost exclusively from the standpoint of the animal physiologist. This is doubtless due to the more extensive treatment of those phases of the subject not exclusively of interest to the animal physiologist, namely, the chemistry of the carbohydrates, fats, and proteins, and the physical chemistry of the cell. These subjects constitute part I (pp. 265). Some plant physiologists, perhaps selfishly, had hoped for even more extensive treatment of the more general phases of the subject.

Part II deals with "the mammalian body considered as a machine," and while it is of more direct interest to the animal physiologist, there are chapters which interest the plant physiologist as well, namely, the chapters entitled "Animal heat" and "Metabolism under various conditions." In the former chapter there is given a summary of our present knowledge of respiration and a historical résumé of its development. The brief historical discussion which the author has given in connection with the treatment of various phases of the whole subject of physiological chemistry seems especially commendable. The statement made early in the text that the energy of the body comes "immediately from the union of living matter or its constituents with oxygen" indicates that he leans toward the PFLÜGER-VERWORN conception of respiration. This conception and the opposing view of HOFMEISTER are treated in the latter chapter under respiration.

Part III is devoted to practical work and methods. An admirable laboratory course dealing with the general phases of the subject and a course of special methods in quantitative analysis of plant and animal tissue form the basis. In the treatment of this practical work the author gratefully acknowledges the able assistance of his colleague F. C. KOCH, under whose direction, for the most part, these courses have been developed. A separate index to part III is an excellent feature.—LEE I. KNIGHT.

[1] MATHEWS, ALBERT P., Physiological chemistry, a textbook and manual for students. 8vo. pp. 1040. New York: Wood. 1915.